

REMARKS

Claims 1, 2, 19-22, 35-38, and 40-59 are now pending in the application. Claims 1, 19, 35-38, 40, 43, and 47-51 are amended. Claims 3-18, 23-34, and 39 are cancelled. Claims 52-59 are new. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

INFORMATION DISCLOSURE STATEMENT

The information disclosure statement filed October 14, 2004 contained a typographical error. Reference was made to U.S. Pub. No. 2002/089502. Applicants intended, however, to reference U.S. Pub. No. 2002-089562. An information disclosure statement listing the corrected reference number is submitted concurrently herewith.

SPECIFICATION

The specification stands objected to for certain informalities. Applicants have amended the specification according to the Examiner's suggestions. Specifically, Applicants have amended the title. Therefore, reconsideration and withdrawal of this objection are respectfully requested.

CLAIM OBJECTIONS

Claims 39 and 40 stand objected to for insufficient antecedent basis. Applicants note the objections are rendered moot by cancellation of claim 39 and amendment of

claim 40. Therefore, reconsideration and withdrawal of the objections are respectfully requested.

STATEMENT OF COMMON OWNERSHIP UNDER 35 U.S.C. § 103(c)

Applicants note that Shinkawa (U.S. Pub. No. 2005/0128232) is cited as 35 U.S.C. § 102(e) prior art in rejections of the claims under 35 U.S.C. § 103(a). Applicants, through their undersigned representative, make the following statement as to common ownership to disqualify the reference under 35 U.S.C. 103(c) as prior art:

Application No. 10/806,030 (the present application) and U.S. Pub. No. 2005/0128232 (the cited reference) were each, at the time the invention was made, owned by, or subject to an obligation of assignment to Seiko Epson Corporation.

As further objective evidence regarding common ownership, Applicants note that the assignment of the present application to Seiko Epson Corporation was recorded on August 2, 2004 at Reel/Frame: 015648/0315 and that the assignment of U.S. Pub. No. 2005/0128232 was recorded on August 2, 2004 at Reel/Frame: 015648/0345.

For these reasons, the Shinkawa (U.S. Pub. No. 2005/0128232) reference is disqualified under 25 U.S.C. 103(c) as prior art in rejections under 25 U.S.C. 103(a). See MPEP § 706.02(l)(1) and 706.02(l)(2).

REJECTION UNDER 35 U.S.C. § 103

Claims 1, 2, 18, 48 and 51 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Usui et al. (U.S. 2002/0170353) in view of Fujii (U.S. Pat. No. 6,299,277). This rejection is respectfully traversed.

Claim 1 recites a droplet ejection apparatus comprising ejection failure detecting means for detecting an ejection failure of droplet ejection heads and a cause thereof. The ejection failure detecting means include an oscillation circuit that oscillates in response to an electric capacitance component that varies with the residual vibration of a diaphragm. Usui et al. and Fujii fail to teach or suggest the droplet ejection apparatus recited by claim 1.

As noted by the Examiner, Usui et al. and Fujii do not disclose ejection failure detecting means that include an oscillation circuit that oscillates in response to an electric capacitance component that varies with the residual vibration of the diaphragm. Office Action 2/09/2006, p. 40. Applicants note that a similar limitation was recited by claim 39. With respect to claim 39, the Examiner cited Shinkawa (U.S. Pub. No. 2005/0128232) as anticipatory of the recited ejection failure detecting means.

For the reasons set forth above in the Statement of Common Ownership under 35 U.S.C. § 103(c), however, Shinkawa is disqualified under 25 U.S.C. 103(c) as prior art in rejections under 25 U.S.C. 103(a).

For these reasons, claim 1 defines over the prior art and reconsideration and withdrawal of the rejection are respectfully requested. With regard to claims 2, 48, and 51, Applicants note that each either directly or indirectly depends from claim 1, which defines over the prior art as discussed in detail above. Therefore, claims 2, 48, and 51

also define over the prior art and reconsideration and withdrawal of the rejections are respectfully requested. With regard to claim to claim 18, the rejection is rendered moot by cancellation.

Claim 3 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Usui et al. (U.S. 2002/0170353) as modified by Fujii (U.S. Pat. No. 6,299,277) as applied to claim 1, and further in view of Kawamura (U.S. Pat. No. 4,577,203). The rejection is rendered moot by cancellation.

Claims 4-6 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Usui et al. (U.S. 2002/0170353) as modified by Fujii (U.S. Pat. No. 6,299,277) and Kawamura (U.S. Pat. No. 4,577,203) as applied to claims 1 and 3, and further in view of Otsuka et al (U.S. 2002/0039120). These rejections are rendered moot by cancellation.

Claim 7 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Usui et al. (U.S. 2002/0170353) as modified by Fujii (U.S. Pat. No. 6,299,277) Kawamura (U.S. Pat. No. 4,577,203) and Otsuka et al. (U.S. 2002/0039120) as applied to claim 4, and further in view of Takahashi et al. (U.S. 5,475,404). This rejection is rendered moot by cancellation.

Claims 8, 10 and 12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Usui et al. (U.S. 2002/0170353) as modified by Fujii (U.S. Pat. No. 6,299,277) as applied to claim 1 and further in view of Usui (U.S. Pat. No. 6,820,955). These rejections are rendered moot by cancellation.

Claims 9, 11 and 13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Usui et al. (U.S. 2002/0170353) as modified by Fujii (U.S. Pat. No. 6,299,277), Kawamura (U.S. Pat. No. 4,577,203), Otsuka et al. (U.S. 2002/0039120)

and Takahashi et al. (U.S. 5,475,404) as applied to claim 7 above, and further in view of Usui (U.S. Pat. No. 6,820,955). These rejections are rendered moot by cancellation.

Claims 14-17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Usui et al. (U.S. 2002/0170353) as modified by Fujii (U.S. Pat. No. 6,299,277) and Usui (U.S. Pat. No. 6,820,955) as applied to Claim 10 above, and further in view of Yamaguchi et al. (U.S. Pat. No. 5,379,061). These rejections are rendered moot by cancellation.

Claims 19 and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Usui et al. (U.S. 2002/0170353) as modified by Fujii (U.S. Pat. No. 6,299,277) as applied to claim 1, and further in view of Takazawa et al. (U.S. 2002/0018090). This rejection is respectfully traversed.

Applicants note that claims 19 and 20 each either directly or indirectly depends from claim 1, which defines over the prior art as discussed in detail above. Therefore, claims 19 and 20 also define over the prior art and reconsideration and withdrawal of the rejections are respectfully requested.

Claim 21 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Usui et al. (U.S. 2002/0170353) as modified by Fujii (U.S. Pat. No. 6,299,277) and Takazawa et al. (U.S. 2002/0018090) as applied to claim 20, and further in view of Shinkawa (U.S. 2005/0128232). This rejection is respectfully traversed.

Applicants note that claim 21 depends from claim 1, which defines over the prior art as discussed in detail above. Therefore, claim 21 also defines over the prior art and reconsideration and withdrawal of the rejection are respectfully requested.

Claim 22 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Usui et al. (U.S. 2002/0170353) as modified by Fujii (U.S. Pat. No. 6,299,277) and Takazawa et al. (U.S. 2002/0018090) as applied to claim 19, and further in view of Usui (U.S. Pat. No. 6,820,955). This rejection is respectfully traversed.

Applicants note that claim 22 depends from claim 1, which defines over the prior art as discussed in detail above. Therefore, claim 22 also defines over the prior art and reconsideration and withdrawal of the rejection are respectfully requested.

Claims 23 and 24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Usui et al. (U.S. 2002/0170353) as modified by Fujii (U.S. Pat. No. 6,299,277) Kawamura (U.S. Pat. No. 4,577,203), Otsuka et al. (U.S. 2002/0039120) and Takahashi et al. (U.S. 5,475,404) as applied to claim 7 above, and further in view of Takazawa et al. (U.S. 2002/0018090). These rejections are rendered moot by cancellation.

Claim 25 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Usui et al. (U.S. 2002/0170353) as modified by Fujii (U.S. Pat. No. 6,299,277), Kawamura (U.S. Pat. No. 4,577,203), Otsuka et al. (U.S. 2002/0039120), Takahashi et al. (U.S. 5,475,404) and Takazawa et al. (U.S. 2002/0018090) as applied to claim 24, and further in view of Shinkawa (U.S. 2005/0128232). This rejection is rendered moot by cancellation.

Claim 26 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Usui et al. (U.S. 2002/0170353) as modified by Fujii (U.S. Pat. No. 6,299,277), Kawamura (U.S. Pat. No. 4,577,203), Otsuka et al. (U.S. 2002/0039120), Takahashi et al. (U.S. 5,475,404), and Takazawa et al. (U.S. 2002/0018090) as applied to claim 23,

and further in view of Usui (U.S. Pat. No. 6,820,955). This rejection is rendered moot by cancellation.

Claims 27 and 28 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Usui et al. (U.S. 2002/0170353) as modified by Fujii (U.S. Pat. No. 6,299,277) and Usui (U.S. Pat. No. 6,820,955) as applied to claim 8, and further in view of Takazawa et al. (U.S. 2002/0018090). These rejections are rendered moot by cancellation.

Claim 29 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Usui et al. (U.S. 2002/0170353) as modified by Fujii (U.S. Pat. No. 6,299,277), Usui (U.S. Pat. No. 6,820,955) and Takazawa et al. (U.S. 2002/0018090) as applied to claim 28, and further in view of Shinkawa (U.S. 2005/0128232). This rejection is rendered moot by cancellation.

Claim 30 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Usui et al. (U.S. 2002/0170353) as modified by Fujii (U.S. Pat. No. 6,299,277), Usui (U.S. Pat. No. 6,820,955) and Takazawa et al. (U.S. 2002/0018090) as applied to claim 27, and further in view of Usui (U.S. Pat. No. 6,820,955). This rejection is rendered moot by cancellation.

Claims 31 and 32 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Usui et al. (U.S. 2002/0170353) as modified by Fujii (U.S. Pat. No. 6,299,277), Kawamura (U.S. Pat. No. 4,577,203), Otsuka et al. (U.S. 2002/0039120), Takahashi et al. (U.S. 5,475,404) and Usui (U.S. Pat. No. 6,820,955) as applied to claim 9, and further in view of Takazawa et al. (U.S. 2002/0018090). These rejections are rendered moot by cancellation.

Claim 33 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Usui et al. (U.S. 2002/0170353) as modified by Fujii (U.S. Pat. No. 6,299,277), Kawamura (U.S. Pat. No. 4,577,203), Otsuka et al. (U.S. 2002/0039120), Takahashi et al. (U.S. 5,475,404), Usui (U.S. Pat. No. 6,820,955) and Takazawa et al. (U.S. 2002/0018090) as applied to claim 32, and further in view of Shinkawa (U.S. 2005/0128232). The rejection is rendered moot by cancellation.

Claim 34 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Usui et al. (U.S. 2002/0170353) as modified by Fujii (U.S. Pat. No. 6,299,277), Kawamura (U.S. Pat. No. 4,577,203), Otsuka et al. (U.S. 2002/0039120), Takahashi et al. (U.S. 5,475,404), Usui (U.S. Pat. No. 6,820,955) and Takazawa et al. (U.S. 2002/0018090) as applied to claim 31 above, and further in view of Usui (U.S. Pat. No. 6,820,955). The rejection is rendered moot by cancellation.

Claims 35-38 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Usui et al. (U.S. 2002/0170353) as modified by Fujii (U.S. Pat. No. 6,299,277) and Takazawa et al. (U.S. 2002/0018090) as applied to claim 19 above, and further in view of Yamaguchi et al. (U.S. Pat. No. 5,379,061). These rejections are respectfully traversed.

Applicants note that claim 35-38 each indirectly depend from claim 1, which defines over the prior art as discussed in detail above. Therefore, claims 35-38 also define over the prior art and reconsideration and withdrawal of the rejections are respectfully requested.

Claims 39-42 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Usui et al. (U.S. 2002/0170353) as modified by Fujii (U.S. Pat. No. 6,299,277) as

applied to claim 1, and further in view of Shinkawa (U.S. 2005/0128232). The rejection as to claim 39 is rendered moot by cancellation. The rejection as to claims 40-42 are respectfully traversed.

Applicants note that claim 40-42, directly or indirectly, depend from claim 1, which defines over the prior art as discussed in detail above. Therefore, claims 40-42 also define over the prior art and reconsideration and withdrawal of the rejections are respectfully requested.

Claim 47 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Usui et al. (U.S. 2002/0170353) as modified by Fujii (U.S. Pat. No. 6,299,277) as applied to claim 1, and further in view of Sakai et al. (U.S. Pat. No. 6,234,607). This rejection is respectfully traversed.

Applicants note that claim 47 indirectly depends from claim 1, which defines over the prior art as discussed in detail above. Therefore, claim 47 also defines over the prior art and reconsideration and withdrawal of the rejection are respectfully requested.

Claim 49 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Usui et al. (U.S. 2002/0170353) as modified by Fujii (U.S. Pat. No. 6,299,277) as applied to claim 1, and further in view of Izumida et al. (U.S. Pat. No. 5,371,528). This rejection is respectfully traversed.

Applicants note that claim 49 indirectly depends from claim 1, which defines over the prior art as discussed in detail above. Therefore, claim 49 also defines over the prior art and reconsideration and withdrawal of the rejection are respectfully requested.

Claim 50 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Usui et al. (U.S. 2002/0170353) as modified by Fujii (U.S. Pat. No. 6,299,277) as

applied to claim 1 above, and further in view of Hiyoshi (U.S. 2005/0017601). This rejection is respectfully traversed.

Applicants note that claim 50 indirectly depends from claim 1, which defines over the prior art as discussed in detail above. Therefore, claim 50 also defines over the prior art and reconsideration and withdrawal of the rejection are respectfully requested.

Claims 52-59 are new. Claim 52 recites a droplet ejection apparatus comprising a main power supply, power cutoff detecting means, a standby power supply, residual vibration detecting means, storage means, ejection failure detecting means, and recovery means.

The prior art cited fails to teach or suggest the droplet ejection apparatus of claim 52. With regard to claims 53-57, each directly or indirectly depends from claim 52 which defines over the prior art as discussed above. For these reasons, Applicants respectfully submit that claims 52-57 are in condition for allowance.

Claims 58 and 59 depend from claims 43 and 52 respectively, which define over the prior art as discussed above. For these reasons, Applicants respectfully submit that claims 58 and 59 are in condition for allowance.

ALLOWABLE SUBJECT MATTER

The Examiner states that claims 43-46 would be allowable if rewritten in independent form. Accordingly, Applicants have amended claim 43 to include the limitations of the base claim and any intervening claims. Therefore, claim 43 should now be in condition for allowance. Applicants note that claims 44-46 depend, either directly or

indirectly, from claim 44. Therefore, claims 44-46 should also be in condition for allowance.

CONCLUSION

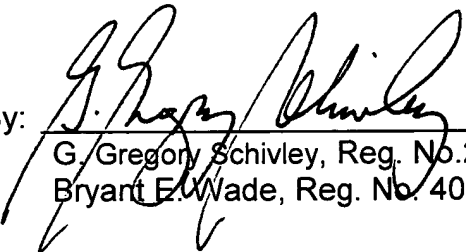
It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

Dated: June 8, 2006

HARNESS, DICKEY & PIERCE, P.L.C.
P.O. Box 828
Bloomfield Hills, Michigan 48303
(248) 641-1600

[GGS/BEW/MPD/cn]

By: 
G. Gregory Schivley, Reg. No. 27,382
Bryant E. Wade, Reg. No. 40,344